

PATENT

Attorney Docket No.: AMAT/5614.D1/CMP/CMP/RKK

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**Claims:**

1. A method of processing a substrate, comprising:
  - a) positioning the substrate in an electrolyte solution a first distance from a permeable disc disposed in the electrolyte;
  - b) applying a current to a surface of the substrate exposed to the electrolyte and depositing a material on the substrate; and
  - c) positioning the substrate a second distance from the permeable disc, the second distance being less than the first distance.
2. The method of claim 1, wherein the electrolyte is a copper containing solution.
3. The method of claim 2, wherein less than 5000 angstroms of material is deposited at the first distance.
4. The method of claim 1, wherein the current is applied in a range from about 20 amps or less.
5. The method of claim 1, wherein the permeable disc is a polishing pad.
6. The method of claim 5, wherein applying the current to the substrate comprises the use of a pulse plating technique.
7. The method of claim 1, wherein the first distance is between about 1 mm and about 5 mm.
8. The method of claim 7, wherein the second distance is less than above 100  $\mu\text{m}$ .
9. The method of claim 7, wherein the substrate and the permeable disk are in contact at the second distance.

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10. The method of claim 1, further comprising transferring the substrate to a polishing apparatus.
11. The method of claim 9, wherein the permeable disk exerts a pressure on the substrate of about 2 psi or less at the second distance.
12. The method of claim 1, wherein the current is applied in a range between about 0.5 amps and about 5.0 amps.
13. A method of processing a substrate, comprising:  
positioning the substrate in an electrolyte solution a first distance from a permeable disc disposed in the electrolyte; and  
applying a current to a surface of the substrate exposed to the electrolyte and depositing a material on the substrate.
14. The method of claim 13, wherein the electrolyte is a copper containing solution.
15. The method of claim 13, wherein less than 5000 angstroms of material is deposited at the first distance.
16. The method of claim 13, wherein the current is applied in a range from about 20 amps or less.
17. The method of claim 13, wherein the permeable disc is a polishing pad.
18. The method of claim 13, further comprising transferring the substrate to a polishing apparatus.

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19. The method of claim 13, wherein the current is applied in a range between about 0.5 amps and about 5.0 amps.